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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/590,865

09/11/2007

Darren S. McKnight

2592-110

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7590

07/01/2009

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WASHINGTON, DC 20005

EXAMINER

IPPOLITO RAUSCH, NICOLE

ART UNIT

PAPER NUMBER

2881

NOTIFICATION DATE

DELIVERY MODE

07/01/2009

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

PTO-PAT-Email@rfem.com

<b>Office Action Summary</b>	<b>Application No.</b> 10/590,865	<b>Applicant(s)</b> MCKNIGHT ET AL.	
	<b>Examiner</b> NICOLE IPPOLITO RAUSCH	<b>Art Unit</b> 2881	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.  
     4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 August 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
     a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____.                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date ____.  | 6) <input type="checkbox"/> Other: ____.                          |

**DETAILED ACTION**

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1, 10, and 11-12 and 18 are rejected under 35 U.S.C. 102(e) as being anticipated by Leffler (U.S. Patent Application Publication Number 20040159615, from hereinafter “Leffler”).

3. In regards to claim 1, Leffler teaches a water-borne ionizing radiation treatment system comprising an ionizing radiation treatment system (FIG. 1, ionized gas generation system 12, paragraph 0033). Leffler further teaches a means for supporting said water-borne ionizing radiation treatment system on a body of water (paragraph 0027 discloses that the device is on the hull of a boat).

4. In regards to claim 10, Leffler teaches that said ionizing radiation treatment system includes an independent power generation source (FIG. 7, power supply 36, paragraphs 0031-0033).

5. In regards to claim 11, Leffler teaches a method of decontamination comprising the step of decontaminating material with an ionizing radiation treatment system located

Art Unit: 2881

on a water-borne platform (FIG. 1, ionized gas generation system 12, paragraph 0033, while paragraph 0027 discloses that the device is on a boat).

6. In regards to claim 12, Leffler teaches a step of providing radiation shielding by filling containers or compartments on said water-borne platform with water, and or filling the hull of said water-borne platform with water (paragraph 0027).

7. In regards to claim 18, Leffler teaches a step of providing a spraying device to take water from the platform to decontaminate contaminated material (paragraph 0055).

***Claim Rejections - 35 USC § 103***

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

10. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Leffler. Though Leffler fails to explicitly teach that the decontamination is performed below the

Art Unit: 2881

waterline within said water-borne platform, it would have been obvious. Leffler does disclose that the water for decontamination is taken in through the hull, therefore at least a section must lie below the waterline to gain access to the water. By performing the decontamination below the waterline, the water surrounding the boat/barge acts a naturally occurring radiation filter, thus further protecting the surrounding environment from any possible stray harmful radiation. As the applicant is already claiming that the decontamination will take place on some form of water-borne platform, in the interest of utilizing a natural radiation filter, it would have been obvious to perform the decontamination step below the waterline.

11. Claims 2-3, 5-6, 8, 13-15, and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Leffler in view of Bidnyy et al. (U.S. Patent Number 5554856, from hereinafter "Bidnyy"). The teachings of Leffler are discussed above.

12. In regards to claim 2, Leffler fails to explicitly teach a hot zone for staging contaminated materials, an accelerator system for decontaminating the contaminated materials, a cold zone for storing the decontaminated materials, and a moving means for transporting the contaminated materials to the accelerator system, and for transporting decontaminated materials from the accelerator system (though in FIGS. 7-9 a series of chambers are discussed, in which the water flows through being decontaminated via the radiation, and it would be obvious to have storage vessels on either side of the decontamination stretch, paragraphs 0030-0037).

Bidnyy explicitly teaches a hot zone for staging contaminated materials, an accelerator system for decontaminating the contaminated materials, a cold zone for

Art Unit: 2881

storing the decontaminated materials, and a moving means for transporting the contaminated materials to the accelerator system, and for transporting decontaminated materials from the accelerator system (FIG. 1, pockets 15, products 16, transporter 1, accelerator 3, columns 2-3 lines 11-14).

In view of the teaching of Bidnyy it would have been obvious to one of ordinary skill in the art at the time the invention was made to include a hot zone for staging contaminated materials, an accelerator system for decontaminating the contaminated materials, a cold zone for storing the decontaminated materials, and a moving means for transporting the contaminated materials to the accelerator system, and for transporting decontaminated materials from the accelerator system. In general, it is obviously disadvantageous for storing the contaminated materials too near the decontaminated materials, as recontamination may occur. In the interest of isolating the contaminated (and likely dangerous/toxic) materials from the cleansed materials, this staging system would have been obvious.

13. In regards to claim 3, Leffler as modified by Bidnyy as discussed above fails to teach that the hot zone and cold zone are isolated from one another by a barrier (though a barrier would have been obvious to prevent recontamination of the cleansed material).

However Bidnyy does teach that the hot zone and cold zone are isolated from one another by a barrier (FIG. 1, shield 2, column 2).

In view of the teaching of Bidnyy it would have been obvious to one of ordinary skill in the art at the time the invention was made that the hot zone and cold zone are

Art Unit: 2881

isolated from one another by a barrier. As been previously discussed, it would obviously be disadvantageous to allow recontamination of the decontaminated material, and this barrier will serve to prevent such an eventuality.

14. In regards to claim 5, Leffler as modified by Bidnyy as discussed above fails to teach that the accelerator system is aimed toward a bottom side of the supporting means.

However, Bidnyy does teach that the accelerator system is aimed toward a bottom side of the supporting means (FIG. 1, accelerating section 3, vertical axis 14, column 2).

In view of this further teaching of Bidnyy it would have been obvious to one of ordinary skill in the art at the time the invention was made that the accelerator system is aimed toward a bottom side of the supporting means. So doing greatly conserves the space that the device requires (over, i.e., a similar horizontal arrangement) and therefore makes the device more desirable for industrial, in particular portable, applications.

15. In regards to claim 6, Leffler fails to teach that the supporting means includes a hull, structural members, or systems with increased thickness sufficient for radiation shielding.

Bidnyy teaches that the supporting means includes structural members with increased thickness sufficient for radiation shielding (FIG. 1, shield 2, column 2).

In view of the teaching of Bidnyy it would have been obvious to one of ordinary skill in the art at the time the invention was made that the supporting means includes

Art Unit: 2881

structural members with increased thickness sufficient for radiation shielding. Including radiation shielding when dealing with radiation is necessary for the safety of any operators that may be in the area. Building the required shielding into the already required support structure is merely an obvious optimization and placement of a mechanical component which must be included anyway.

16. In regards to claim 8, Leffler as modified by Bidnyy as discussed above does not teach that the accelerator system comprises an electron beam system.

However, Bidnyy does teach that the accelerator system comprises an electron beam system (see, i.e., abstract).

In view of this further teaching of Bidnyy it would have been obvious to one of ordinary skill in the art at the time the invention was made that the accelerator system comprises an electron beam system. Such a system is well known, procured relatively cheaply, and has been much studied for purification processes. It would have been obvious to utilize such a well known, well understood, and oft employed device.

17. In regards to claim 13, Leffler fails to teach modifying the typical placement of said platforms hull, structural members, or systems to enhance the intrinsic radiation shielding of said platform.

Bidnyy teaches modifying the typical placement of said platforms structural members, or systems to enhance the intrinsic radiation shielding of said platform (FIG. 1, shield 2, column 2).

In view of the teaching of Bidnyy it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the typical placement of said



Art Unit: 2881

platforms hull, structural members, or systems to enhance the intrinsic radiation shielding of said platform. Including radiation shielding when dealing with radiation is necessary for the safety of any operators that may be in the area. Building the required shielding into the already required support structure is merely an obvious optimization and placement of a mechanical component which must be included anyway.

18. In regards to claim 14, Leffler fails to teach that said step of decontaminating includes treating contaminating material with an accelerator system, said accelerator system comprising either an electron beam system or an x-ray system.

Bidnyy teaches that said step of decontaminating includes treating contaminating material with an accelerator system, said accelerator system comprising an electron beam system (see, i.e., abstract).

In view of the teaching of Bidnyy it would have been obvious to one of ordinary skill in the art at the time the invention was made that said step of decontaminating includes treating contaminating material with an accelerator system, said accelerator system comprising either an electron beam system or an x-ray system. Such a system is well known, procured relatively cheaply, and has been much studied for purification processes. It would have been obvious to utilize such a well known, well understood, and oft employed device.

19. In regards to claim 15, Leffler as modified by Bidnyy as discussed above fails to teach that said accelerator system is aimed downward toward a bottom side of said water-borne platform.

However, Bidnyy does teach that said accelerator system is aimed downward toward a bottom side of said platform (FIG. 1, accelerating section 3, vertical axis 14, column 2).

In view of this further teaching of Bidnyy it would have been obvious to one of ordinary skill in the art at the time the invention was made that the accelerator system is aimed toward a bottom side of said water-borne platform. So doing greatly conserves the space that the device requires (over, i.e., a similar horizontal arrangement) and therefore makes the device more desirable for industrial, in particular portable, applications.

20. In regards to claim 17, Leffler fails to teach that contaminated materials are routed to a hot zone and clean materials are routed to a cold zone, said hot zone and said cold zone being separated from each other by a barrier.

Bidnyy teaches that contaminated materials are routed to a hot zone and clean materials are routed to a cold zone, said hot zone and said cold zone being separated from each other by a barrier (FIG. 1, pockets 15, products 16, transporter 1, accelerator 3, shield 2, columns 2-3 lines 11-14).

In view of the teaching of Bidnyy it would have been obvious to one of ordinary skill in the art at the time the invention was made that contaminated materials are routed to a hot zone and clean materials are routed to a cold zone, said hot zone and said cold zone being separated from each other by a barrier. So doing prevents the obviously undesirable recontamination of the decontaminated materials by the contaminated materials.

Art Unit: 2881

21. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Leffler as modified by Bidnyy as applied to claim 2 above, and further in view of Nemezawa et al. (U.S. Patent Number 5929458, from hereinafter "Nemezawa"). The teachings of Leffler and Bidnyy have been discussed above.

In regards to claim 4, Leffler as modified by Bidnyy fails to teach that the supporting means further comprises water compartments adjacent to the accelerator system to provide radiation shielding.

Nemezawa teaches a supporting means comprising water compartments to provide radiation shielding (claims 1-4).

In view of the teaching of Nemezawa it would have been obvious to one of ordinary skill in the art at the time the invention was made that the supporting means further comprises water compartments adjacent to the accelerator system to provide radiation shielding. Water is a good radiation filter, and as this system is designed for use on a water-borne platform, water will exist in copious amounts surrounding the system. Therefore, it would have been obvious to further protect operators/bystanders from the radiation system using water compartments.

22. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Leffler as modified by Bidnyy as applied to claim 2 above, and further in view of Smith (U.S. Patent Number 4426580, from hereinafter "Smith"). The teachings of Leffler and Bidnyy have been discussed above.

In regards to claim 7, Leffler as modified by Bidnyy fails to explicitly teach that the accelerator system is aimed toward a front side of the supporting means, and said hot

Art Unit: 2881

zone and said cold zone are located at a rear side of said supporting means (though this falls under the provenance of “rearrangement of parts” as Leffler and Bidnyy do teach the claimed invention except for that the accelerator system is aimed toward a front side of the supporting means, and said hot zone and said cold zone are located at a rear side of said supporting means. It would have been obvious to one of ordinary skill in the art at the time the invention was made that the accelerator system is aimed toward a front side of the supporting means, and said hot zone and said cold zone are located at a rear side of said supporting means, since it has been held that rearranging parts of an invention involved only routine skill in the art. In re Japikse, 86 USPQ 70).

Smith teaches that the accelerator system is aimed toward a front side of the supporting means, and said hot zone and said cold zone are located at a rear side of said supporting means (FIG. 1, chambers 1 and 5, anode 9, gas supply means 11, restriction means 7a-b, columns 3-4).

In view of the teaching of Smith it would have been obvious to one of ordinary skill in the art at the time the invention was made that the accelerator system is aimed toward a front side of the supporting means, and said hot zone and said cold zone are located at a rear side of said supporting means. In general, it has been held that rearranging parts of an invention involved only routine skill in the art. In re Japikse, 86 USPQ 70. Specifically in this case, it would have been obvious to rearrange the parts into a configuration that will fit in said water-borne platform. Therefore, dependent on the geometry of the system, this may well be the obvious system to use.

Art Unit: 2881

23. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Leffler as modified by Bidnyy as applied to claim 2 above, and further in view of Curry et al. (U.S. Patent Number 5311566, from hereinafter "Curry"). The teachings of Leffler and Bidnyy have been discussed above.

In regards to claim 9, Leffler as modified by Bidnyy fails to teach that the accelerator system comprises an x-ray system.

Curry teaches that the accelerator system comprises an x-ray system (see, i.e., abstract, amongst other locations).

In view of the teaching of Curry it would have been obvious to one of ordinary skill in the art at the time the invention was made that the accelerator system comprises an x-ray system. As Curry discusses, x-rays are better for the decontamination of the biological materials (i.e., bacteria in, i.e., human waste). Therefore, the utilization of x-rays would be obvious if the system was going to be used in the decontamination of biological solids (i.e. in the aftermath of Hurricane Katrina).

24. Claims 19-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Leffler as applied to claim 18 above, and further in view of Miles (U.S. Patent Number 2813815, from hereinafter "Miles"). The teachings of Leffler have been discussed above.

In regards to claims 19-20, Leffler fails to teach a step of capturing the runoff of said spraying device and returning it to the platform water compartments, as well as decontaminating the runoff stream from said spraying device using said ionizing radiation treatment system.

Miles teaches a step of capturing the runoff of said spraying device and returning it to the platform compartments, as well as decontaminating the runoff stream from said spraying device (columns 1-4).

In view of the teaching of Miles it would have been obvious to one of ordinary skill in the art at the time the invention was made to include a step of capturing the runoff of said spraying device and returning it to the platform water compartments, as well as decontaminating the runoff stream from said spraying device using said ionizing radiation treatment system. It would be obvious to decontaminate the spray as the goal is totally cleanse all material, and in the event that the water has become contaminated (a highly probably eventuality), it would be obvious to ultimately decontaminate that material, as well.

### ***Conclusion***

25. Any inquiry concerning this communication or earlier communications from the examiner should be directed to NICOLE IPPOLITO RAUSCH whose telephone number is (571)270-7449. The examiner can normally be reached on Monday through Thursday 6:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Kim can be reached on (571)272-2293. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR.

Art Unit: 2881

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/N. I./

Examiner, Art Unit 2881

/ROBERT KIM/

Supervisory Patent Examiner, Art Unit 2881